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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,482	10/02/2003	Gin-Der Wu	ALIP0025USA	2481

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EXAMINER	
SERROU, ABDELALI	

ART UNIT	PAPER NUMBER
2626	

NOTIFICATION DATE	DELIVERY MODE
06/20/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/605,482	WU, GIN-DER	
	Examiner	Art Unit	
	Abdelali Serrou	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1,2,4-15 and 17-20* is/are rejected.

7)☒ Claim(s) *3 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because according to the specification, page 8, figure 2 should not be labeled as "Prior Art". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re*

Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim1-19 of U.S. Patent No. 7,173,986. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 14 of the instant application merely broadens the scope of claims 1 and 11 of the Patent by eliminating the elements and their functions of the claims. It has been held that the omission an element and its function is an obvious expedient if the remaining elements perform the same function as before. *In re Karlson*, 136 USPQ 184 (CCPA). Also note *Ex parte Rainu*, 168 USPQ 375 (Bd.App.1969); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-9, 12-15, and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi (U.S 2005/0273321).

As per claims 1 and 14 Choi teaches:

calculating a first magnitude of a cross-correlation function of the S.sub.1[n] signal and the S.sub.2[n] signal according to a first index [0018]);

comparing the cross-correlation function first magnitude with a threshold value ([0014];

if the first magnitude is smaller than the threshold value, calculating a first reference magnitude of the cross-correlation function of the S.sub.1[n] signal and the S.sub.2[n] signal according to a first reference index behind the first index by a first determined number, or calculating a second reference magnitude of the cross-correlation function of the S.sub.1[n] signal and the S.sub.2[n] signal according to a second reference index behind the first index by a second number (inherently disclosed in the process of searching for the maximum value of cross-correlation, [0034], lines 8-11); and

synthesizing the S.sub.3[n] signal by adding the S.sub.1[n] signal to the S.sub.2[n] signal in accordance with a maximum index corresponding to a largest magnitude among all of the magnitudes calculated in step (c) (0034], lines 29-37).

As per claims 2 and 15, Choi teaches wherein in step (d) the S.sub.1[n] signal is weighted and added to an S.sub.4[n] signal that lags the S.sub.2[n] signal by the maximum index to form the S.sub.3[n] signal (weighting function, [0034, line 32).

As per claims 4 and 17, Choi teaches setting each of the magnitudes corresponding to indexes between the first index and the first or second reference index to zero ([0047].

As per claims 5 and 18, Choi teaches updating the threshold value according to the maximum index ([0059], lines 1-5).

As per claims 6-9, Choi teaches wherein the $S_1[n]$ signal and the $S_2[n]$ signal are sampled from an $S_1(t)$ signal and an $S_2(t)$ signal respectively, and are both derived from an original audio or video signal ([0066]).

As per claims 12-13, and 19-20 Choi teaches wherein the first and second determined number are equal to one and larger than one, respectively (inherent in the manipulation of the evaluation indexes of [0012]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi.

Choi teaches all the limitations of claim 7, upon which claims 10 and 11 depend on.

Choi does not explicitly teach deriving two signals, from an original signal, wherein the derived signals are identical or different from each other.

However, it's well known in the art of signal processing to derive two signals, from an original signal, with identical or different content.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to derive two signals, from an original signal, with identical or different content for further processing. The motivation is the analysis, interpretation, and manipulation of the signal of interest.

Allowable Subject Matter

5. **Claims 3 and 16** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 3 and 16 teach a multiple step-sized levels adaptive method for time scaling to synthesize an $S_3[n]$ signal from an $S_1[n]$ signal and an $S_2[n]$ signal, wherein $S_1[n]$ signal has N elements while the $S_2[n]$ signal has $S_2[n$ elements, and the $S_3[n]$ signal

=the $S_1[n]$ signal, where 0<=n<the maximum index;

=(N_1-n)/(N_1-the maximum index)* S_1 [n]+(n-the maximum index)/(N_1-the maximum index)*S_4[n-the maximum index], where the maximum index <=n< N_1;

= S_4 [n-the maximum index], where N_1<=n<=N_2-the maximum index;

= the $S_1[n]$ signal, where 0<=n<the maximum index + a predetermined number;

=(N_1-n)/(N_1-(the predetermined number + the maximum index))*S_1[n]+(n-(the predetermined number + the maximum index))/(N_1-(the predetermined number + the maximum index))*S_4[n-(the predetermined number + the maximum index)], where (the predetermined number + the maximum index)<=n<N_1;

$=S_4$[n-(the predetermined number + the maximum index)], where $N_1<=n<=(N_2+$the predetermined number + the maximum index).

The closest art is by:

Miyasaka (U.S 5,845,247), who teaches an apparatus that reproduces a plurality of band signals which have been subjected to a band division and includes a time-scale modifier which receives the plurality of band signals, time-axis compresses the respective band signals, and a synthesis filter bank for synthesizing the plurality of time-axis compressed band signals.

Koezuka (U.S 6,801,898) who teaches performing time-scale modification on digital signals.

Taniguchi et al. (U.S 6,484,137) who teach an audio reproducing a system which realizes time-scale modified audio with high/low speed and of high quality, with a simple construction based on time-scale compression/expansion at a prescribed speed rate which is completed by processing data in frames.

The prior art of record do not teach a non-linear method for time-scaling to synthesize a signal as recited in claims 3 and 16.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ballesty et al. (U.S 6,944,510) teach a method of time-scale modification processinf of a based digital audio signal based on synchronous overlap addition. Laroche (U.S 6,049,766) teaches a time-domain time/pitch scaling of speech or audio signals with transient handling. Hejna, Jr et al. (U.S 5,175,769) teach a method for time-scale modification of signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdelali Serrou whose telephone number is 571-272-7638. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis I. Smits can be reached on 571-272-7628. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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6/11/07

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